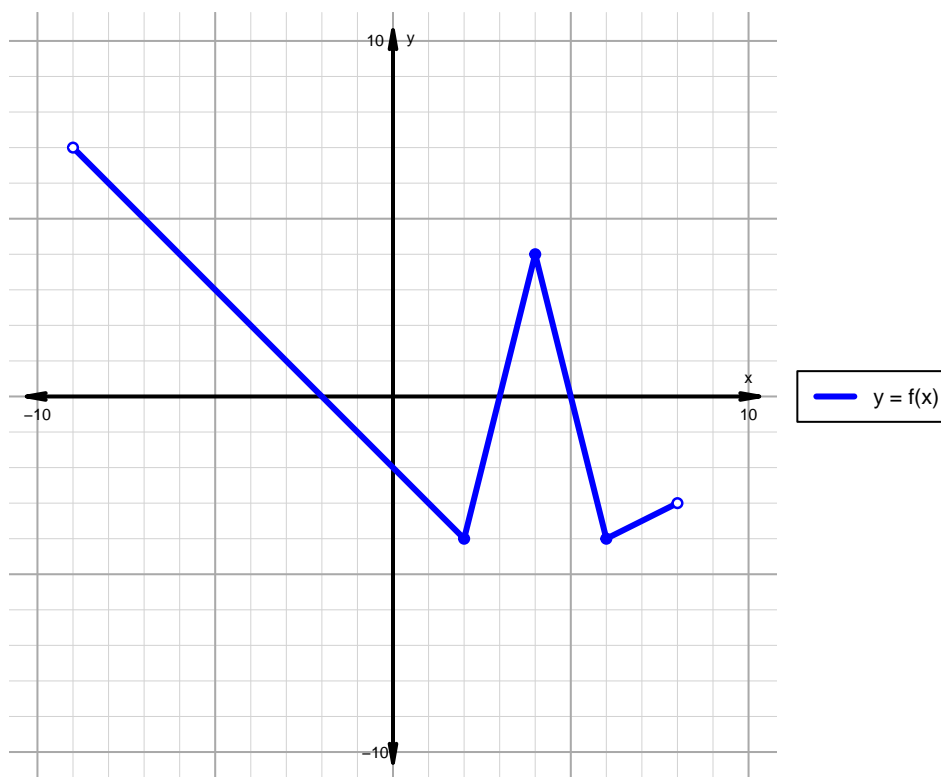


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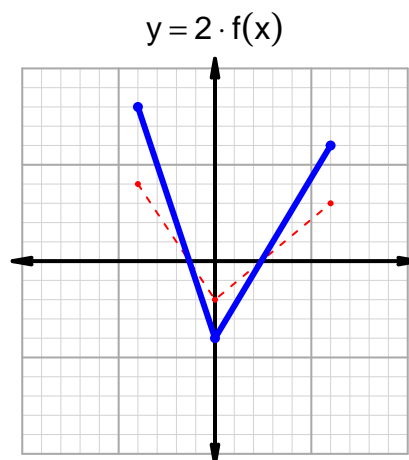
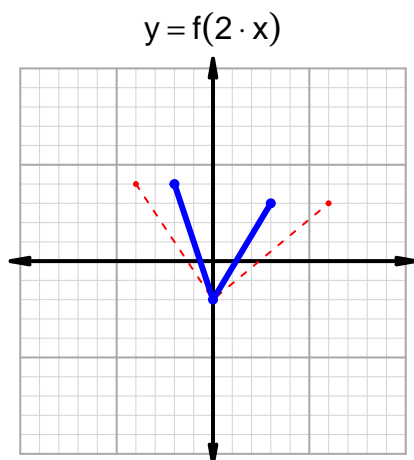
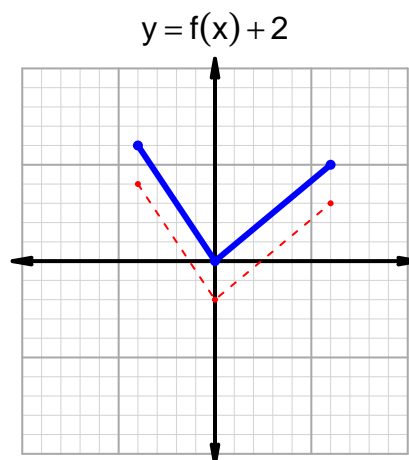
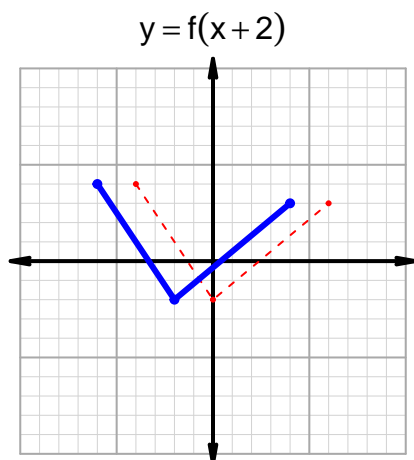
Intervals, Transformations, and Slope Solution (version 9)1. The function f is graphed below.

Indicate the following intervals using interval notation. Remember, you can use \cup between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-9, -2) \cup (3, 5)$
Negative	$(-2, 3) \cup (5, 8)$
Increasing	$(2, 4) \cup (6, 8)$
Decreasing	$(-9, 2) \cup (4, 6)$
Domain	$(-9, 8)$
Range	$(-4, 7)$

Intervals, Transformations, and Slope Solution (version 9)

2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2) - g(x_1)}{x_2 - x_1}$ to find the average rate of change between $x_1 = 23$ and $x_2 = 65$. Express your answer as a reduced fraction.

x	$g(x)$
23	61
55	23
61	65
65	55

$$\frac{f(65) - f(23)}{65 - 23} = \frac{55 - 61}{65 - 23} = \frac{-6}{42}$$

The greatest common factor of -6 and 42 is 6. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-1}{7}$$